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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,716	01/21/2004	Boris A. Shoykhet	97AB027-B	3717

7590 03/21/2007
Rockwell Automation, Inc.
Attention: Susan M. Donahue
Patent Dept./704P
1201 South Second Street
Milwaukee, WI 53204

EXAMINER

LAM, THANH

ART UNIT	PAPER NUMBER
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2834

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/761,716	Applicant(s) SHOYKHET, BORIS A.	
	Examiner Thanh Lam	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/27/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7,8,10-17,19-27,29 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7,8,10-17,19-27,29 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/27/2006 have been fully considered but they are not persuasive.

2. Applicant's argument that Prior art and Fisher fail to disclose recited features "free/eliminating singularity point" in the independent claims 7,17,26,31.

In this case the terms "free/eliminating singularity points" can be broadly interpreted as a bonding/Adhesive between surfaces is uniformly/evenly or without air in the bonding/Adhesive region. Refer to Fisher col. 3, Ins.10-11,"exclusion of air in the adhesive" as cited in previous action, thus, Fisher read on the recited language in the claims.

3. In response to applicant's argument that APA and Fisher cannot be properly combined because it is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, APA and Fisher are same analogous because both disclose rotatable joint assembly. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). in this case is a rotatable joint structure, therefore, combination of APA and Fisher is proper.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7-8,10-17,19-27,29-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior art (figure 1 of the application) hereinafter `PA in view of Fisher (US 4275122).

Regarding claims 7,17,26,27,31, PA disclose a superconducting motor comprising: a stator assembly (210) having stator windings forming a stator cavity, and a rotor assembly having rotor windings, the rotor assembly operatively mounted to rotate within the stator cavity, the rotor assembly including bonded joint assembly coaxially connecting members; a vacuum jacket encapsulating the rotor and forming a vacuum region therewithin.

Fisher discloses a rotatable/joint/bond joining assembly (fig. 2) formed of dissimilar materials (31 and 32 are different materials) one of said members (31) exposed to a first temperature, another of said members (32a-32e) exposed to a second temperature different from the first temperature which has been cooled, wherein

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the joint assembly has securing surfaces that are configured to essentially eliminate singularity points (col. 1, Ins. 49-62 and exclusive air of the bond col. 3, Ins. 10-11) along a joint of the joint assembly.

PA and Fisher are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the other.

it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify and the joint assembly of PA to accommodate the joint assembly as taught by Fisher in order to improve to strength of the joint.

Regarding claims 8, 21, 35, the proposal in combination of PA and Fisher disclose the materials are bonded with an adhesive.

Regarding claim 10, the proposal in combination of PA and Fisher disclose one of said members is exposed to a first temperature and another of said members is exposed to a second temperature different from the first temperature, the dissimilar materials and joint assembly providing thermal insulation between the first and second temperatures.

Regarding claims 11,32, 33, the proposal in combination of PA and Fisher disclose comprising a refrigeration system (216 of 'PA) providing a cooling agent to the rotor assembly to maintain rotor windings of the rotor assembly at a cryogenic temperature.

Regarding claims 12, 34, the proposal in combination of PA and Fisher disclose comprising a vacuum jacket surrounding the rotor assembly to form a vacuum chamber therewithin that assists in thermally insulating the rotor windings.

Regarding claims 13, 23, 29, 36, the proposal in combination of PA and Fisher disclose the rotor assembly has a second joint assembly of similar construction to the joint assembly, the joint assembly and second joint assembly being position on opposite ends of the rotor assembly.

Regarding claims 14,24, the proposal in combination of PA and Fisher disclose one of the materials is a thermal insulator and the other material is a metal.

Regarding claims 15, 25, the proposal in combination of PA and Fisher disclose one of the members is formed of a composite material and is adhesively bonded to the other member.

Regarding claims 16,20,30, 37, the proposal in combination of PA and Fisher disclose the joint assembly is a torque tube having a tubular member formed of first material adhesively bonded to first and second couplers formed of a second material.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (571) 272-2026.

The examiner can normally be reached on t-f 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh Lam
Primary Examiner
Art Unit 2834
